

Floriculture & Greenhouse Management – Semester B

Levels: Grades 9-12

Units of Credit: Year (0.5)

CIP Code: 010631

Prerequisite: None

COURSE DESCRIPTION

Students will be exposed to greenhouse operations and management practices that will prepare the students to produce commercial plant species in a controlled environment and to manage commercial and experimental greenhouse operations.

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD

010631-01 Students will understand the integral nature of the Agricultural Education Program.

OBJECTIVES

010631-0101 Students will understand and demonstrate the role of FFA in Agricultural Education.

- Write or recite the FFA motto
- List the FFA colors
- List and describe the symbols of the FFA emblem
- List and describe the four kinds of membership
- Write the primary aim of the FFA
- List six specific purposes of the FFA
- State the proper uses of the FFA jacket and the Code of Ethics for FFA members
- Identify the correct date for the historical highlights of FFA
- List the four FFA degrees
- Name the offices and symbols for each office in the FFA
- List eight ways to work toward becoming a chapter leader
- Describe the official dress code for females and males in the FFA
- List four benefits when participating in the FFA
- Recite the FFA Creed
- Attend an FFA meeting
- List two specific duties of FFA chapter officers
- List two of the State, National contests and FFA awards
- Develop leadership qualities for personal goals using communication skills
- Outline the leadership structure in the FFA (committees, officer responsibilities)
- Demonstrate a members role in opening and closing ceremonies

010631-0102 Students will understand and demonstrate the role of Supervised Agricultural Experience (SAE) Program in Agricultural Education

- Identify agricultural interests and/or career goals
- Define SAE and identify the types of SAE
- List reasons for participating in a SAE
- Define improvement activities and identify their role in SAE programs
- List five characteristics of a SAE
- List six responsibilities in conducting a SAE
- Prepare a plan for a long-term SAE
- Arrange in order steps involved in obtaining a loan from a credit service
- List the types of SAE records

- List five reasons for keeping records on a SAE
- In an approved record book, record all transactions and activities on a SAE
- Explain why record keeping is important in obtaining a loan from the bank
- Determine the overall quality of current SAE and determine how to make it more productive or profitable

STANDARD

010631-03 Students will demonstrate the propagation of greenhouse plants by seed, cuttings and bulbs in a maintained greenhouse environment.

OBJECTIVES

- 010631-0301 Students will properly operate environmental control systems that affect propagation.
- Identify greenhouse structures and their components
 - Identify and operate supplemental lighting
 - Identify and operate heating and cooling systems
 - Identify and operate ventilation systems
 - Identify and operate saran (for shade) or black cloth systems
- 010631-0302 Students will describe media components and their functions.
- Identify peat moss, perlite, vermiculite and their functions
 - Evaluate soil texture by identifying sand, silt and clay components and their functions
 - Identify compost material and its function
 - Make sure the media is pasteurized
 - Shred and mix media components
- 010631-0303 Students will understand differences among commonly used containers used for propagation.
- Distinguish between flat sizes and functions (pony, jumbo and plug etc.)
 - Identify single cup sizes and functions
- 010631-0304 Students will identify and classify floral plants.
- Classify floriculture plants as monocots or dicots
 - Classify floriculture plants as annuals, biennial or perennials
- 010631-0305 Students will describe the elements of propagation and the techniques and practices used for propagation.
- Sanitize propagation equipment, areas, and containers
 - Interpret seed and bulb tag information
 - Select seeds and bulbs
 - Select a media mix
 - Select container
 - Determine the number of seeds, cuttings or bulbs per container
 - Prepare labels for seeds, cuttings or bulbs
 - Determine plant scheduling
- 010631-0306 Students will propagate plants.
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| <ul style="list-style-type: none"> • Sow seeds • Plant plugs • Transplant seedlings and plugs • Take cuttings • Grade cuttings for size | <ul style="list-style-type: none"> • Use a rooting hormone • Plant cuttings • Transplant cuttings • Plant bulbs • Force bulbs |
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STANDARD

010631-04 Students will perform greenhouse maintenance activities.

OBJECTIVES

- 010631-0401 Students will carry out plant growth monitoring practices and techniques.
- Use a graphical tracking system
 - Identify harvest stages
 - Cut plants
- 010631-0402 Students will perform typical plant maintenance procedures for optimum plant growth.
- Space plants
 - Disbud plants
 - Tie plants to supports
 - Pinch plants
 - Identify symptoms of water stress
 - Identify symptoms of nutrient deficiency
 - Hand-irrigate plants as needed
 - Adjust temperatures for plants
 - Identify and adjust factors affecting humidity for optimum plant growth
- 010631-0403 Students will identify fertilization practices and terminology and use of growth-regulating compounds.
- Apply growth-regulating compounds as needed
 - Interpret fertilizer bag labels
 - Identify components of a complete fertilizer
 - Mix fertilizer solutions
 - Identify and use fertilizer injectors
 - Apply dry fertilizer as needed
 - Apply liquid fertilizer as needed

STANDARD

010631-05 Students will maintain and prepare container and houseplants for sale.

OBJECTIVES

- 010631-0503 Students will understand basics of marketing in floriculture and greenhouse industry.
- Arrange plants
 - Recognize ways of maintaining and increasing the effectiveness of horticultural business displays
 - Recognize how advertising is used
 - Complete sales tickets
 - Use proper telephone techniques

STANDARD

010631-06 Students will investigate chemical characteristics of soil problems.

OBJECTIVES

- 010631-0601 Students will demonstrate proper soil sampling techniques.
- Collect soil sample
 - Take full core samples from a container
 - Take multiple samples from a compost pile
- 010631-0602 Students will test and determine pH level of various soil types
- Test pH level with a pH probe or litmus paper
- 010631-0603 Students will interpret results of soil sample pH test.
- Determine soil acidity, alkalinity, or neutrality
 - Investigate the properties of lime and sulfur